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ABSTRACT

This study investigated the influence of the feedback a teacher expects to receive after teaching on his preference for expository or discovery teaching styles. The subjects were 88 undergraduate educational psychology students at the University of Texas at Austin. Each completed a three-part questionnaire, the Teaching Style Inventory (TSI), indicating preference for teaching styles. Microteaching sessions were followed by four reactions: feedback on appropriateness, learning, or interest, or no feedback. After the lessons, the subjects' preferences were assessed again, using part one of the TSI. An analysis of covariance showed that the differences among the mean preferences for the four groups were significant, and that preference for teaching styles shifted most from discovery to expository in the group receiving appropriateness feedback. The study demonstrated that preference for a teaching style can be influenced by the type of feedback the teacher expects to receive, but expected feedback about appropriate use of style can cause a shift toward a more familiar set of behaviors, even though the style is perceived as less effective for student learning or interest. The expectation of this type of feedback in a teaching laboratory or student teaching situation can hinder attempts to encourage teachers to experiment with less familiar instructional patterns. [Not available in hardcopy due to marginal legibility of original document.] (MBM)

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THE EFFECT OF FEEDBACK EXPECTANCY ON TEACHER TRAINEES' PREFERENCES FOR TEACHING STYLES[1]

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In recent years microteaching (Allen and Ryan, 1969) has become a well known technique in teacher education. This approach permits teacher trainees to practice different teaching skills and styles in a variety of real and simulated classroom settings. One advantage of microteaching is that teachers can practice behaviors and learn new or unfamiliar teaching styles without fear of harming or interfering with actual pupils' achievement. Thus, the setting provides an opportunity for maximum experimentation on the part of the trainee with no fear of the consequences of inadequate teaching performance on his pupils.

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Another useful feature of the microteaching setting is the opportunity for feedback from peers or supervisors. Feedback can take many forms. For example, feedback can focus on the effects of the teacher's behavior on the pupils, including the extent to which pupils learned from the lesson, or reached whatever objectives were initially intended. Similarly, feedback can be directed at the extent of pupil interest in the lesson, or toward the effects of the teacher's behavior upon student motivation for attaining the lesson's objectives. Another potential feedback focus is the adequacy or appropriateness of teacher's behavior for the particular teaching skill. In other words, if the purpose of a teaching session is to produce a particular pattern of questions (e.g. from narrow to broad) or to practice a particular teaching style (e.g. guided discovery of a principle), feedback can be directed at the extent to which the teacher's behavior approximates some criterion or matches that of some model.

Within the laboratory situation that microteaching provides, one of the effects of feedback should be to increase the teacher's willingness to experiment with his instructional behavior. Feedback which results in the teacher's choosing to utilize only the most familiar or comfortable teaching behavior, rather than to extend his repertoire of instructional skills, would be disappointing in its effect.

The present study investigated the influence of the feedback the teacher expects to receive subsequent to teaching on his preference for expository or discovery teaching styles. Four feedback conditions were utilized.

Appropriateness Condition (A): Feedback concerning the extent to which the teacher's behavior matched that of the style (expository or discovery) he chose to practice.

Learning Condition (B): Feedback focussing upon the extent to which students learned from the lesson.

Interest Condition (C): Feedback focussing upon students' interest and motivation in the lesson.

No Feedback Condition (D): No feedback was provided.

Procedure

Ss were 88 students enrolled in an undergraduate educational psychology course, the first in a sequence of courses required for secondary teacher certification at The University of Texas at Austin. This study was conducted while the Ss were studying a unit on expository and discovery styles of teaching. In this unit the students read several articles on the topic and taught a lesson to their peers in a microteaching laboratory setting while utilizing one of the two teaching styles.

At the beginning of the unit, each student completed a three part questionnaire, the Teaching Style Inventory (TSI), requiring approximately 15 minutes to complete. Part one of the TSI assessed preference for expository and discovery teaching styles. Ss were asked to "...assume that you have been asked to teach a group of students for fifteen minutes. You are free to pick the subject and particular content to be taught. Which of the two teaching models would you use?" Preference was indicated by circling one of five responses (strongly agree, agree, neutral, disagree, and strongly disagree) to each of two items: "I would use an expository teaching style," and "I would use a discovery teaching style." Responses to each item were scored from one to five, and the difference between the two item's scores was used as a measure of the strength of a S's preference for either a discovery or an expository style. Thus, negative differences indicate varying degrees of preference for a discovery style over an expository style, zero differences indicate no preference and positive differences reflect preference for an expository style.

Part two of the TSI was an eleven-item check list of statements concerning the two styles. Ss indicated whether the particular statement applied to either or both of the two teaching styles. These items related to four possible reasons for preferring either style: (1) amount of preparation and instruction time, (2) how well the student felt he understood the style, (3) effectiveness of the style in reaching learning objectives, and (4) effectiveness of the style for developing and maintaining interest and motivation.

Part three of the TSI was a 16-item multiple choice test used to assess understanding of the two styles.

Subsequent to the initial administration of the TSI each student was given the readings that accompanied the unit and told that upon completion of the readings he could sign up for the micro-teaching part of the unit. Upon returning to sign up, he was re-administered the TSI. However, prior to completing the TSI, the experimental condition was induced in the following manner.

Attached to and preceding the TSI were procedural instructions about the microteaching session, followed by a description of the type of feedback that was to be made available to the S about the lesson. An example of these instructions, in this case for condition B (Learning feedback) is provided below.

Feedback.

> In order that this microteach helps you as a teacher, feedback will be provided to you about your lesson.
>
> This feedback will be made available by asking the students you teach to judge how well they understood the content of the lesson you taught. (When you are a student in your colleagues' lessons, you can also provide the same feedback to them.)
>
> For convenience, a rating form will be used to provide the feedback. This rating scale will be

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"How adequate was my understanding of the lesson, i.e., how well did I learn what was supposed to be learned?"

Very Good Understanding		Fair Understanding		Very Poor Understanding

In addition, you will be provided with written feedback, at a later date, made by a trained rater who will listen to the tape recording of your lesson. This feedback will focus upon how appropriately the lesson provided for student learning and the extent to which students appeared to understand and learn from the lesson.

This feedback is not intended as an evaluation; it is simply a means of providing you with information which is relevant to teaching and can aid your development as a teacher.

In the other two feedback conditions (Appropriateness (A) and Interest (C)) the instructions paralleled those cited above for the "learning" condition. In the "no feedback" condition no instructions were given regarding feedback.

The TSIs with the attached feedback descriptions were presented randomly to students when they signed up for microteaching. (However, several additional "appropriateness" feedback descriptions were inadvertently included, thus producing a slightly larger n for that condition). Students were thus assigned to one of four groups, three of which expected different types of feedback and a fourth group having no expectation for feedback.

After induction of the different feedback expectations, Ss completed the TSI, and then signed up for a time for the microteaching part of the unit. After teaching the lessons, the Ss' preferences for the styles again were assessed, using part one of the TSI.

Results.

The results presented below center on two questions: (1) what effect did differing expectations of feedback have on preference for a teaching style? and, (2) What variables other than feedback expecrancy appear related to preference?

An analysis of covariance was computed on the preference scores obtained after inducing feedback expectancy. Initial preference scores were used as the covariate.[1] The differences among the mean preferences for the four groups were significant ($F=3.00$, $p=.03$, $df=3,82$). Table 1 presents the initial pre-mean preference scores and the past adjusted mean preference scores. It is evident from the adjusted means that preference for the teaching styles was altered most in Group A, whose members expected feedback about the appropriateness of their teaching behavior for the style they used. This group's preferences shifted in favor of the expository style. The other two feedback conditions and the no feedback condition did not differentially affect preferences, although there appears to be a tendency to prefer an expository style more after feedback expectancy than before.

Table 1

Pre and post (adjusted) mean preference scores.[a]

Feedback Condition	Means of preferences Pre	Post
A (Appropriateness)	-.40	.97
B (Pupil learning)	-.42	.13
C (Pupil interest)	-.48	-.14
D (No feedback)	.30	.00

[a]Negative mean preference scores indicate preference for a discovery style.

A second analysis of covariance was computed using the preference scores obtained from the Ss after teaching. Again the initial preferences were used as the covariate. The differences among the group means were not significant ($p > .05$), although the relative ordering of the adjusted mean preference scores remained the same as before teaching (adjusted group means were $\bar{X}_A=.47$, $\bar{X}_B=.24$, $\bar{X}_C=.06$, $\bar{X}_D=-.01$).

In order to help clarify the meaning of the results, the frequencies of changes in preference for the four groups are presented in Tables 2 and 3.

[1]A test of the difference among the group regression slopes was not significant ($p > .25$).

Table 2

Frequency of changes in preference following induction of feedback expectancy.

Feedback condition	n	Direction of Change: Toward Expository	Toward Discovery	No Change
A (Appropriateness)	25	11	1	13
B (Pupil learning)	21	3	2	16
C (Pupil interest)	21	3	4	14
D (No feedback)	20	5	3	12

Table 3

Frequency[a] of changes in preference following teaching, compared to initial preference.

Feedback condition	n	Direction of Change: Toward Expository	Toward Discovery	No Change
A (Appropriateness)	23	11	4	8
B (Pupil learning)	19	4	3	12
C (Pupil interest)	18	5	5	8
D (No feedback)	20	5	5	10

[a]Frequencies are smaller than in Table 2 because some Ss did not teach.

It can be seen in table 2 that changes in preference toward an expository style were most frequent in the group expecting appropriateness feedback. No appreciable differential shift in preference occurred in the other three feedback groups. Table 3 indicates that after teaching, the same number of Ss in Group A changed their preference toward an expository style, but three additional Ss shifted toward a discovery style. A slightly larger number of shifts occurred in the other groups, but these did not seem to favor either style.

Reasons for preference. Data also were obtained on the TSI regarding possible reasons for preferring a style. Ss indicated whether each of 11 items was true for expository, for discovery, or for both. The items dealt with four variables that might influence preference: how well the teacher felt he understood the style (5 items), the styles' effects on student interest (2 items), the styles' effects on student learning (2 items), and the amount of time required for preparation and instruction (2 items). Scores were obtained for each variable by subtracting the number of items checked for a discovery style from the number of items checked for an expository style. Thus, a positive score for a variable means that the S rated a discovery style higher than an expository style on that characteristic. Table 4 shows mean scores on each variable for three groups (Preferred expository, No preference, Preferred discovery) for the second administration of the TSI. Table 5 presents the ANOVA for the three preference groups on each variable.

Table 4

Means of reasons for preferring a style.

		Reasons for preference			
Group	n	Better Understood	Student Interest	Student Learning	Amount of Time
Preferred expository	38	2.12	.00	.51	.38
No preference	16	.93	-.63	.06	.25
Preferred discovery	26	-.77	-1.62	-1.16	.05

Table 5

Analyses of variance comparing preference groups on each of four reasons for preferring a style.

Variable	MS_B	MS_e	F^a	p
Better understood	65.49	3.10	21.12	$<.001$
Student interest	20.36	1.46	13.94	$<.001$
Student learning	21.97	1.36	16.15	$<.001$
Amount of time	.89	1.99	.45	--

$p(F_{2.77} > 7.54) < .001$

It is apparent that Ss preferring a particular style felt they understood that style better than the style they did not choose. In addition, those who preferred a style were likely to agree that it was more effective in reaching learning objectives. Those preferring a discovery style felt it was more effective in eliciting pupil interest than those preferring an expository style (however, those preferring an expository style considered both styles equally effective in this regard). There were no significant differences among the preference groups in perceived amount of instruction and preparation time required for the two styles.

To gain insight into reasons for preference shifts to the expository style in group A (appropriateness feedback), the responses on the TSI for the Ss in group A whose preferences changed to expository were compared to the responses of Ss in the other groups whose preferences did not change (but whose initial preferences were the same as the "change" Ss in group A). Table 6 presents the responses obtained from these Ss before and after feedback expectancy.

Table 6

Means of reasons for preference obtained before and after feedback expectancy, in Group A and other groups.

Reason for Preference	Group A: changed preference to expository. (n=11)			Other groups: did not change preference to expository. (n=25)					
	Before	After	d_1	Before	After	d_2	d_1-d_2	$S_{d_1-d_2}$	t
Better Understood	-1.18	.36	1.54	-1.12	- .92	.20	1.34	.627	2.12*
Student interest	-1.73	-1.64	.09	-1.52	-1.48	.04	.05	.314	.16
Student learning	-1.64	-1.18	.45	-1.20	- .96	.24	.21	.376	.56
Amount of time	- .28	- .28	.00	- .04	.52	.56	-.56	.473	-1.18

*$p < .05$

The only differential change in the reasons for preference was on the "Better Understood" dimension, indicating that Ss who changed their preference to expository also changed their perception of how well they understood the styles. Prior to feedback expectancy these Ss felt they understood the discovery style better than expository, whereas after they learned the focus for feedback in their lesson, they felt, on the average, slightly more understanding for the expository style.

Part three of the TSI, a 16-item multiple choice test of knowledge of the two styles, produced no significant differences among any of the treatment groups.

Discussion.

The main finding from this study is that preference for a teaching style can be influenced by the type of feedback the teacher expects to receive. Specifically, in a microteaching laboratory, when the teachers expected to receive feedback based upon the appropriateness of their behavior for the style they chose to practice, they tended to abandon a discovery style and shift their preferences toward an expository style.

This shift in preference can be explained, in part, by these teachers' tendency to change their estimate of understanding of the styles. Prior to feedback expectancy a discovery style was thought to be better understood, whereas after feedback expectancy the teachers considered their understanding of an expository style greater than or equal to a discovery style. Teachers with the same initial preferences in the other feedback groups did not change their self-assessment of understanding of the styles. Thus, "appropriateness" feedback appears to increase the saliency of the degree of understanding of a style. In a situation where performance of a style is open to scrutiny, familiarity may become a dominant characteristic affecting the teacher's decision to use a style. Evidently, the perceived effectiveness of a style for eliciting student interest or student learning is relatively uninfluential, since a discovery style was judged superior to expository on these characteristics.

An attempt must be made to explain the failure of the other types of feedback to alter preferences, particularly for the "student interest" feedback group. As previously indicated, teachers in this group were to receive information about the extent of student interest in and motivation for the content of their lesson. Those preferring an expository style considered it, on the average, to be no more effective than discovery for eliciting student interest; approximately one half of the group preferring the expository style actually considered discovery a superior style for this purpose. Perhaps the most suitable explanation for their not changing to discovery is that inexperienced teachers' actual concerns are more likely to be focused on themselves, rather than on their students (Fuller, 1969). Thus, the teachers' expectation that feedback will center on student

interest is insufficient to overcome the discomfort of trying to alter their tendency to use a more familiar style.

Expectation of feedback can influence preference for a teaching style. However, expected feedback about appropriate use of a style can cause a shift toward a more familiar set of behaviors, even though the style is perceived as less adequate for student learning and student interest. Thus, it appears that the expectation of this type of feedback in a teaching laboratory (or even early in student teaching, when teachers' concerns also may be self-centered) can be detrimental to attempts to encourage teachers to experiment with less familiar patters of instruction.

References

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